



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,338	03/23/2004	Yusuke Ohashi	62807-177	2206
20457	7590	01/29/2007	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP			MARTINEZ, DAVID E	
1300 NORTH SEVENTEENTH STREET				
SUITE 1800			ART UNIT	PAPER NUMBER
ARLINGTON, VA 22209-3873			2181	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/29/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/806,338	OHASHI ET AL.	
	Examiner David E. Martinez	Art Unit 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 27 November 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-9 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-9 is/are rejected.
- 7) Claim(s) 2-6, 9 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

Claim Objections

Claim 3 is objected to because of the following informalities: in line 10, the term "updating I/O-enable/disable information" should read "updating **said** I/O-enable/disable information". Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 appears to be directed to an abstract idea rather than a practical application of the idea. The last step in claim is directed to "determining to enable/disable said I/O requests..." which does not appear to provide a useful, concrete and tangible result, therefore, non-statutory. A proposed solution for example would be to replace the determining step with a positive recitation of "enabling or disabling said I/O requests...".

Claim 2 appears to be directed to an abstract idea rather than a practical application of the idea. The last step in the claim is directed to "judging, using the extracted said I/O enable/disable information, whether to enable/disable each I/O request..." which does not appear to provide a useful, concrete and tangible result, therefore, non-statutory. A proposed solution for example would be to replace the judging step with a positive recitation of "using said extracted I/O enable/disable information to enable or disable each I/O request...".

Claim 5 appears to be directed to an abstract idea rather than a practical application of the idea. The last step in the claim is directed to "judging, using the extracted I/O enable/disable information, whether to enable/disable each I/O request..." which does not

Art Unit: 2181

appear to provide a useful, concrete and tangible result, therefore, non-statutory. A proposed solution for example would be to replace the judging step with a positive recitation of "using the extracted I/O enable/disable information to enable or disable each I/O request..."

Claim 7 appears to be directed to an abstract idea rather than a practical application of the idea. The last step in claim is directed to "determining whether to enable/disable said I/O requests to be executed..." which does not appear to provide a useful, concrete and tangible result, therefore, non-statutory. A proposed solution for example would be to replace the determining step with a positive recitation of "enabling or disabling said I/O requests to be executed..."

Claim 8 suffers from the same deficiencies as claim 2 above in lines 31-32 and thus is rejected under the same rationale, however, a similar solution as proposed above would overcome the rejection.

Claim 9 also suffers from the same deficiencies as claim 2 above in lines 23-24 and thus is rejected under the same rationale, however, a similar solution as proposed above would overcome the rejection.

Due to claims 3-6 being dependent from claim 1, they suffer from the same deficiencies thus are rejected under the same rationale.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 7, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,823,168 to Tanaka et al. (hereinafter Tanaka).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With regards to claim 1 and 7, Tanaka teaches a method of controlling enablement/disablement of I/O requests from plural host computers to a disk device [abstract], said method comprising:

in said host computers [fig 1 elements 110, 120 – column 4 lines 68-41],

transmitting access-right change commands [fig 4 element 455 – column 7 lines 1-6] to said disk device [fig 1 element 170 – column 4 line 58 to column 5 line 3], said access-right change commands [fig 4 element 455] including one piece or plural pieces of information having I/O-enable/disable information and host identification information to correspond to each other in a one-to-one correspondence manner [fig 4 element 455 shown in detail in fig 7 comprised of different modules], said I/O-enable/disable information indicating whether or not said disk device will execute said I/O requests from said host computers [fig 7 element 655 which shows "exclusion control" and can also be as shown in the fig 6 table, "priority control", "O" for access permitted, and "X" for access excluded - column 9 lines 14-29 and column 8 lines 29-59], said host identification information identifying said respective host computers [fig 7 element 650 – column 9 lines 14-29], and

Art Unit: 2181

issuing, to said disk device [fig 1 element 170], said I/O requests to which said host computers have added said host identification information [column 4 lines 38-41] and in said disk device [fig 1 element 170],

changing a batch of said I/O enable/disable information on each host-computer basis in accordance with said access-right change commands from said host computers [column 8 lines 29-59], and storing and holding said I/O enable/disable information in an access-right management table [fig 1 elements 182, 183, and 185 shown in detail as fig 6 element 500],

identifying request-source host computers in response to said I/O requests from said host computers [column 5 lines 3-6 and column 7 lines 16-20], and,

based on said host identification information and said I/O enable/disable information held in said access-right management table, determining to enable or disable said I/O requests to be executed on each host-computer's node basis [column 7 lines 16-20 and column 8 lines 29-59].

With further to claim 8, Tanaka teaches an information processing system configured to control execution enablement/disablement of I/O requests from plural host computers to a disk device [abstract], comprising:

each of said host computers [fig 1 elements 110, 120 – column 4 lines 68-41] including:

an I/O request unit [fig 1 elements 117, 118, 127, 128] for issuing an I/O request [fig 1 element 130] to which said I/O request unit has added host identification information [fig 1 modules inside element 130] for identifying said respective host computers [column 4 lines 38-56], and

an access-right change command unit for transmitting an access-right change commands [fig 4 element 455 – column 7 lines 1-6] to said disk device [fig 1 element 170 –

column 4 line 58 to column 5 line 3], said access-right change commands [fig 4 element 455] including one piece or plural pieces of information having I/O-enable/disable information and said host identification information to correspond to each other in a one-to-one correspondence manner [fig 4 element 455 shown in detail in fig 7 comprised of different modules], said I/O-enable/disable information indicating whether or not said disk device will execute said I/O requests from said host computers [fig 7 element 655 which shows "exclusion control" and can also be as shown in the fig 6 table, "priority control", "O" for access permitted, and "X" for access excluded - column 9 lines 14-29 and column 8 lines 29-59], and

 said disk device [fig 1 element 170] including:

 an access-right management table [fig 1 elements 182, 183, and 185 shown in detail as fig 6 element 500] for storing and holding said access-right change commands from said host computers [column 8 lines 29-59],

 an access control unit [fig 4 element 462] for identifying request-resource host computers of said I/O requests, and for judging whether to enable/disable said I/O requests to be executed on each host-computer basis, based upon said host identification information and said access-right management table [column 7 lines 16-20, column 8 lines 29-59], and

 an access-right change unit that [fig 4 element 470], in accordance with said access-right change commands from said host computers within said access-right management table, changes in a batch of said I/O enable/disable information on each host-computer basis [column 7 lines 21-27],

 said disk device judging whether to enable/disable said I/O requests on each host-computer's node basis, with said host computers being said I/O request sources [column 7 lines 16-20, column 8 lines 29-59].

Allowable Subject Matter

Claims 2-6, and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 101 set forth in this Office action and also if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

With regards to claim 2, the prior art of record, alone or in combination fail to teach or fairly suggest:

in said host computers,

transmitting path information to said disk device, said path information having said host identification information and path identification information to correspond to each other, said path identification information identifying all of logical paths from said host computers to said disk device, and

issuing said I/O requests to which said host computers have added said path identification information; and

in said disk device,

storing and holding said path identification information transmitted from said host computers,

extracting said path identification information from said I/O requests transmitted from said host computers, extracting said host identification information corresponding to said path identification information stored and held, and extracting said O/O-enable/disable information with which said host identification information extracted coincides, and

using said extracted I/O enable/disable information, to enable or disable each I/O request for said I/O requests on each host-computer's node basis. [note the terms shown in italics overcome the 101 rejection]

Claims 5-6 depend from claim 2 and thus are indicated as being allowable subject matter for the same reasons as claim 2 above.

With regards to claim 3, the prior art of record, alone or in combination fail to teach or fairly suggest:

If an I/O-disable command is included in said I/O-enable information in said access-right change commands transmitted from said computers,

then in said disk device,

extracting, from among said access-right change commands, host identification information corresponding to said I/O-enable/disable information with respect to all of I/O disable commands included in said same access-right change commands, and

updating "the" or "said" I/O-enable/disable information for host identification information into an I/O-disable state, said host identification information coinciding with said host identification information extracted and being stored and held in said disk device, and

if an I/O-enable command is included in said I/O-enable/disable information in said access-right change commands transmitted from said host computers,

then in said disk device,

extracting, from among said access-right change commands, host identification information corresponding to said I/O-enable/disable information with respect to all of I/O-enable commands included in said same access-right change commands, and

updating said I/O-enable/disable information for host identification information into an I/O-enable state, said host identification information coinciding with said host identification information extracted and being stored and held in said disk device.

Claim 4 depends from claim 3 and thus is indicated as being allowable subject matter for the same reasons as claim 3 above.

With regards to claim 9, the prior art of record, alone or in combination fail to teach or fairly suggest a system having a path-information transmission unit, a path-management table, a I/O request unit, and a access control unit, implementing the method steps of claim 2 as disclosed above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent Application Publication No. US 2003/0221124A1 to Curran et al. teaches checking the validity of I/O requests – see paragraph 24.

US Patent Application Publication No. US 2003/0126225 A1 to Camble et al. teaches a lookup table for checking if a host is authorized to issue commands (requests) to a transfer element. See claim 12.

US Patent No. 6,219,771 to Kikuchi et al. teaches setting an access permission table in a host that permits a host to be executed.

US Patent Application Publication No. US 2002/0083282A1 to Yoshino et al. teaches a disk apparatus that enables access authorization to be assigned solely to specific host devices.

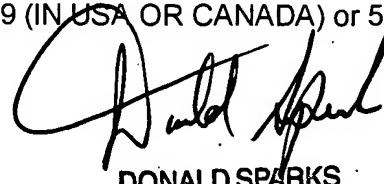
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Martinez whose telephone number is (571) 272-4152. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on 571-272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



DONALD SPARKS
SUPERVISORY PATENT EXAMINER

DEM